REMARKS

This responds to the Office Action mailed on April 6, 2007.

Claims 1, 3, 4, 9, 27, 28, 32, 59, 65, and 66 are amended, no claims are canceled, and no claims are added; as a result, claims 1-9, 27-33, and 59-66 are now pending in this application. The amendments to the claims are fully supported by the specification as originally filed. No new matter is introduced. Applicant respectfully requests reconsideration of the above-identified application in view of the amendments above and the remarks that follow.

Support for the amendments to claims 1, 4, and 59 may be found in the specification, for example, at page 11, lines 5-8, page 12, lines 1-2, Figure 4, Figure 6, and Figure 7. Support for the amendments to claim 3 may be found in the specification, for example, at page 10, line 26 – page 11, line 2. Claim 27 is amended to further clarify this claim. Support for the amendments to claim 27 may be found in the specification, for example, on page 15, lines 15-16. Support for the amendments to claim 32 may be found in the specification, for example, on page 15, lines 20-23. Claims 65 and 66 are amended to clarify these claims.

First §102 Rejection of the Claims

Claims 1, 27, 28, and 30-33 were rejected under 35 U.S.C. § 102(e) for anticipation by Nguyen et al. (U.S. 6,245,595). Applicant traverses these grounds of rejection of these claims.

With respect to claim 1, Applicant cannot find in Nguyen et al. (hereafter Nguyen '595) a disclosure, a teaching, or a suggestion of a method that includes, after applying an adhesive to a first side of a finished wafer, forming an array of conductive elements within the adhesive to a level to allow the adhesive to contact a support to attach the at least one die to the support, as recited in claim 1. As shown in Figure 6 and discussed in the Summary of Nguyen '595, the method of Nguyen '595 relates to forming an array of conductive elements and applying an adhesive underfill to his structure having the array of conductive elements formed thereon. Claim 1 is amended to further clarify this claim. Applicant submits that Nguyen '595 does not teach each and every claim element of claim 1, that Nguyen '595 does not teach the identical invention in as complete detail as is contained in claim 1, and/or that Nguyen '595 does not teach each and every claim element arranged as in claim 1. Thus, Applicant submits that Nguyen '595

does not anticipate claim 1 and that claim 1 is patentable over Nguyen '595 for at least the reasons stated above.

With respect to claim 27, Applicant cannot find in Nguyen '595 a disclosure, a teaching, or a suggestion of a method that includes applying an adhesive layer to a finished wafer after an array of conductor elements have been formed in the adhesive layer as recited in claim 27. Claim 27 is amended to further clarify this claim. Applicant submits that Nguyen '595 does not teach each and every claim element of claim 27, that Nguyen '595 does not teach the identical invention in as complete detail as is contained in claim 27, and/or that Nguyen '595 does not teach each and every claim element arranged as in claim 27. Thus, Applicant submits that Nguyen '595 does not anticipate claim 27 and that claim 27 is patentable over Nguyen '595 for at least the reasons stated above.

Additionally, claims 28 and 30-33 depend on claim 27. Applicant submits that claims 28 and 30-33 are patentable over Nguyen '595 for at least the reasons stated above.

Applicant respectfully requests withdrawal of these rejections of claims 1, 27, 28, and 30-33, and reconsideration and allowance of these claims.

Second §102 Rejection of the Claims

Claims 1, 27, 28, 30, and 32 were rejected under 35 U.S.C. § 102(e) for anticipation by Patel et al. (U.S. 6,528,349). Applicant traverses these grounds of rejection of these claims.

With respect to claim 1, Applicant cannot find in Patel et al. (hereafter Patel) a disclosure, a teaching, or a suggestion of a method that includes forming an array of conductive elements within an adhesive to a level to allow the adhesive to contact a support to attach the at least one die to the support at initial contact of the array of conductive elements with the support, as recited in claim 1. In the Office Action, it is stated that "Patel (e.g. Fig. 2H, 2I, 4A, 4B) discloses . . . applying an adhesive layer (14) . . . forming an array of conductive element (16) within the adhesive to a level to allow the adhesive to contact a support (e.g. portions of adhesive in contact with support; Fig. 4B." Patel at column 3, lines 57- column 4, line 9 states:

> The compliant layer 14 serves a number of important functions, such as: encapsulating the IC to protect it from environmentally induced reliability failures caused by moisture, contaminants, mobile ions, ultraviolet, visible, and alpha-particle radiations, heat, humidity, severe cold, etc.; providing mechanical support and a low stress medium to the embedded compliant interconnects 30; supporting

> vertical compliance for wafer level testability; providing a low dielectric medium for compliant interconnects 30; and providing the ability to incorporate various components 25 (FIG. 5) like integrated passives (such as resistors, capacitors, inductors), decoupling capacitors, and Radio Frequency (RF) components in the compliant layer 14. As well, a material chosen for the compliant layer 14 should have a high glass transition temperature, and be compatible with silicon and metal surfaces, such as copper (Cu), gold (Au), titanium (Ti), nickel (Ni), aluminum (Al), and any other metal used in the IC, compliant package, and PWB manufacturing process.

Compliant does not *per se* mean adhesive. Applicant cannot find in Patel a statement that Patel's compliant layer is an adhesive layer.

Further, Figures 4A and 4B of Patel illustrate that the conductive element 16 is at a level at which support 50 itself does not contact compliant layer14 of Patel at contact to conductive element 16. Applicant amends claim 1 to further clarify the claim. Applicant submits that Patel does not teach each and every claim element of claim 1, that Patel does not teach the identical invention in as complete detail as is contained in claim 1, and/or that Patel does not teach each and every claim element arranged as in claim 1. Thus, Applicant submits that Patel does not anticipate claim 1 and that claim 1 is patentable over Patel for at least the reasons stated above.

With respect to claim 27, Applicant cannot find in Patel a disclosure, a teaching, or a suggestion of a method that includes applying an adhesive layer to a finished wafer after an array of conductor elements have been formed in the adhesive layer as recited in claim 27. Claim 27 is amended to further clarify this claim. Applicant submits that Patel does not teach each and every claim element of claim 27, that Patel does not teach the identical invention in as complete detail as is contained in claim 27, and/or that Patel does not teach each and every claim element arranged as in claim 27. Thus, Applicant submits that Patel does not anticipate claim 27 and that claim 27 is patentable over Patel for at least the reasons stated above.

Additionally, claims 28, 30, and 32 depend on claim 27. Applicant submits that claims 28, 30, and 32 are patentable over Patel for at least the reasons stated above.

Applicant respectfully requests withdrawal of these rejections of claims 1, 27, 28, 30, and 32, and reconsideration and allowance of these claims.

First §103 Rejection of the Claims

Claims 1-4, 6-9, 27-33, 59, 60, 62, 63, 65, and 66 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Nguyen et al. (U.S. 6,352,881) in combination with Nguyen (U.S. 6,245,595). Applicant traverses these grounds of rejection of these claims.

With respect to claim 1, Applicant cannot find in the combination of Nguyen et al. (hereafter Nguyen '881) and Nguyen '595 a teaching or a suggestion of a method that includes, after applying an adhesive to a first side of a finished wafer, forming an array of conductive elements within the adhesive to a level to allow the adhesive to contact a support to attach the at least one die to the support, as recited in claim 1. As shown in Figures 1(f) and 3(c) of Nguyen '881, the underfill is recessed from the top of the solder balls. Nguyen '595 is relied upon to teach an underfill capable of flowing. As a result, Nguyen '595 does not cure the deficiencies of citing Nguyen '881 with respect to claim 1. Therefore, Applicant submits that Nguyen '881 in combination with Nguyen '595 does not establish a proper *prima facie* case of obviousness with respect to claim 1. Thus, Applicant submits that claim 1 is patentable over Nguyen '881 in combination with Nguyen '595.

For at least reasons similar to those stated with respect to claim 1, Applicant submits that independent claims 4 and 59 are patentable over Nguyen '881 in combination with Nguyen '595. Claims 2-3, claims 6-9 and 65, and claims 60, 62, 63, and 66 depend from claims 1, 4, and 59, respectively. Thus, Applicant submits that 2, 3, 6-9, 60, 62, 63, 65, and 66 are patentable over Nguyen '881 in combination with Nguyen '595 for at least the reasons stated herein.

With respect to claim 27, Applicant cannot find in the combination of Nguyen'881 and Nguyen '595, as proffered in the Office Action, a teaching or a suggestion of a method that includes applying an adhesive layer to a finished wafer after an array of conductor elements have been formed in the adhesive layer as recited in claim 27. Claim 27 is amended to further clarify this claim. Applicant submits that Nguyen '881 in combination with Nguyen '595 does not teach all the elements of claim 27. Therefore, Applicant submits that Nguyen '881 in combination with Nguyen '595 does not establish a proper *prima facie* case of obviousness with respect to claim 27. Thus, Applicant submits that claim 27 is patentable over Nguyen '881 in combination with Nguyen '595.

Additionally, claims 28-33 depend on claim 27. Applicant submits that claims 28-33 are patentable over Nguyen '881 in combination with Nguyen '595 for at least the reasons stated above.

Applicant respectfully requests withdrawal of these rejections of claims 1-4, 6-9, 27-33, 59, 60, 62, 63, 65, and 66, and reconsideration and allowance of these claims.

Second §103 Rejection of the Claims

Claim 5 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Nguyen et al. (U.S. 6,352,881) in combination with Nguyen (U.S. 6,245,595) as applied to claim 4 and further in combination with Kim et al (U.S. 6,903, 451). Applicant traverses these grounds of rejection of this claim.

Applicant submits that combining Kim et al (hereafter Kim) with Nguyen '881 in combination with Nguyen '595, as proffered in the Office Action, does not cure the deficiencies of citing Nguyen '881 in combination with Nguyen '595 with respect to claim 4. Therefore, Applicant submits that claim 4 is patentable over Nguyen '881 in combination with Nguyen '595 in combination with Kim. Claim 5 depends from claim 4. Thus, Applicant submits that claim 5 is patentable over Nguyen '881 in combination with Nguyen '595 in combination with Kim for at least the reasons stated herein.

Applicant respectfully requests withdrawal of these rejections of claim 5, and reconsideration and allowance of this claim.

Third §103 Rejection of the Claims

Claim 61 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Nguyen et al. (U.S. 6,352,881) in combination with Nguyen (U.S. 6,245,595) as applied to claim 59 and further in combination with Yamaji et al (U.S. 6,159,837). Applicant traverses these grounds of rejection of this claim.

Applicant submits that combining Yamaji et al (hereafter Yamaji) with Nguyen '881 in combination with Nguyen '595, as proffered in the Office Action, does not cure the deficiencies of citing Nguyen '881 in combination with Nguyen '595 with respect to claim 59. Therefore, Applicant submits that claim 59 is patentable over Nguyen '881 in combination with Nguyen

'595 in combination with Yamaji. Claim 61 depends from claim 59. Thus, Applicant submits that claim 61 is patentable over Nguyen '881 in combination with Nguyen '595 in combination with Yamaji for at least the reasons stated herein.

Applicant respectfully requests withdrawal of these rejections of claim 61, and reconsideration and allowance of this claim.

Fourth §103 Rejection of the Claims

Claim 64 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Nguyen et al. (U.S. 6,352,881) in combination with Nguyen (U.S. 6,245,595) as applied to claim 59 and further in combination with Akram et al (U.S. 6,313,522). Applicant traverses these grounds of rejection of this claim.

Applicant submits that Akram et al, U.S. 6,313,522, (hereafter Akram) is not prior art with respect to the instant claims. U.S. Patent No. 6,313,522 issued on 6 November 2001. The instant application claims priority to application Serial No. 09/505,018 that was filed on 16 February 2000, before U.S. Patent No. 6,313,522 issued. Further, application Serial No. 09/505,018 and U.S. Patent No. 6,313,522 were, at the time of the invention of application Serial No. 09/505,018 and application Serial No. 10/722,838 was made, owned by Micron Technology, Inc. or subject to an obligation of assignment to Micron Technology Inc.

Applicant notes that under 35 U.S.C. 103(c)(1)

> Subject matter developed by another person, which qualifies as prior art only under one or more of subsections (e), (f), and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the claimed invention was made, owned by the same person or subject to an obligation of assignment to the same person.

See MPEP 706.02(1)(1). Therefore, Applicant submits that since Akram, U.S. 6,313,522, is not prior art with respect to the instant claims, Akram in combination with Nguyen '881 in combination with Nguyen '595 does not establish a proper *prima face* case of obviousness with respect to claim 64. Thus, Applicant submits that claim 64 is patentable over Nguyen '881 in combination with Nguyen '595 in combination with Akram for at least the reasons stated herein.

Applicant respectfully requests withdrawal of these rejections of claim 64, and reconsideration and allowance of this claim.

Assertion of Pertinence

Applicant has not responded to the assertion of pertinence stated for the patents cited, but not relied upon, by the Office Action since these patents are not relied upon as part of the rejections in this Office Action. Applicant is expressly not conceding they have any pertinence and reserves the right to respond more fully should any of them form a part of some future rejection.

RESERVATION OF RIGHTS

Applicant does not agree with one or more comments in the instant Office Action. However, Applicant has limited the discussion of the traversal of the Office Action rejections to such discussion as is necessary to efficiently expedite the prosecution of the abovementioned application. Applicant reserves the right to further address the comments of the Examiner at a later date if necessary. In addition, Applicant reserves the right to swear behind any cited reference as may be appropriate.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 371-2157 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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Date 5 July 2007

By David R. Cochran
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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being filed using the USPTO's electronic filing system EFS-Web, and is addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 5 day of July 2007.

KATE GAUDON

Name

Signature